

SERBIA AND MONTENEGRO

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Serbia and Montenegro began 1999 with the largest mining and mineral-processing industries of all the republics of the former Yugoslavia. By the end of 1999, however, the status of Serbia and Montenegro's mining and mineral-processing industries was no more clear than the very political and territorial status of the country itself. By the middle of 1998, the demands of the ethnic Albanian citizens of Serbia's Kosovo Province for a return of political autonomy did not meet with accommodation by Serbia's Government.

Following a mass exodus of many Kosovar Albanians to neighboring Albania and Macedonia and a rejection by Serbia of demands by the North Atlantic Treaty Organization (NATO) to allow an internationally supervised return of Albanian refugees to Kosovo, a de facto state of war began, followed by a lengthy NATO bombing campaign, which was focused on major industries and industrial infrastructure that could benefit Serbia and Montenegro's military effort. Severe bombing damage in Kosovo itself was sustained by the ferronickel plant in Glogovac, and minor damage was sustained by the lead and zinc mining, beneficiation, smelting, and refining complex at Treпча.

In the rest of Serbia and Montenegro, roads, bridges, electric power stations, steel mills, and other industrial plant and infrastructure were heavily damaged. By yearend, Serbia and Montenegro had lost effective control of branches of its minerals industries, which were involved with Kosovo's production of lead and zinc, ferronickel, tinplate, as well as a substantial portion of the country's lignite-producing coal mines.

A result of the conflict was a marked decline of Serbia and Montenegro's gross domestic product in 1999, which fell by 19% compared with that of 1998. In terms of the physical volume of output, total industrial production fell by 22%. In the energy sector, output by the coal mining, electric power generation, petroleum extraction, and petroleum refining branches declined by 16%, 7%, 15%, and 64%, respectively, compared with production levels attained in 1998. In the metals sector, the output of ferrous and nonferrous ores declined by 59% and 18%, respectively, and that of iron and steel and nonferrous metals contracted by 76% and 27%. Also, the production of industrial minerals and construction materials declined by 33% and 29% (Federal Statistical Office, 2000, p. 8-9).

Generally, most exports of minerals fell in comparison with those of 1998. Substantial decreases in exports during 1999 were noted for coal, iron and steel, refined petroleum products, and nonferrous metals. At the same time import of iron and steel products and coal increased significantly relative to imports for 1998 (Federal Statistical Office, 2000, p. 25-26).

The country's principal bauxite mines, which were operated by Rudnici Boksita Niksic, were in Montenegro. Primary aluminum also was produced in Montenegro by DP Kombinat Aluminjuma, which had smelting facilities at Podgorica. Although the vicinity of the Podgorica smelter was subjected to bombing, the facility apparently was undamaged and reportedly continued operating without serious interruptions (Platt's Metals Week, 1999). The Podgorica aluminum smelter, which had the capacity to produce more than 100,000 metric tons per year (t/yr) of primary aluminum, however, did face some supply and transportation difficulties during the closure of the port of Bar by Serbia and Montenegro's navy. Mine production of bauxite doubled in 1999 in comparison with 1998, and the production of alumina and aluminum rose by 2% and 21%, respectively. Exports of aluminum and aluminum alloys, however, amounted to 9,943 metric tons, or about 9% less than in 1998 (Federal Statistical Office, 2000, p. 27).

Rudarsko Topionicki Bazen's (RTB) Bor mining, beneficiation, and smelting complex in Serbia accounted for all of Serbia and Montenegro's total mine output of copper from its Bor, Majdanpek, and Veliki Krivelj open pit mines. The NATO bombing campaign severely disrupted the Bor complex's electricity supply, which resulted in its closure from May through June and a decline in the production copper ore and refined copper by 20% and 47%, respectively (Mining Journal, 1999). Although exports of such copper products as anode and cathode declined in 1999 (3,450 tons compared with 5,302 tons exported in 1998), by yearend, Serbia and Montenegro managed to boost total exports of refined copper wire and tubes to about 70,000 t from 61,394 t in 1998 (Federal Statistical Office, 2000, p. 27).

At yearend, RTB Bor announced the start up of mine production of lead and zinc at the Madjanpek Mine, which has been known solely as a producer of copper ore. RTB Bor reportedly invested US\$1.5 million to develop the new lead and zinc production capacities at Madjanpek. The new operation was planned to produce 1 millions metric tons per year (Mt/yr) of lead and zinc ore per year and about 35,000 t/yr of zinc, 8,500 t/yr of lead, and precious metals in concentrates. The lead and zinc concentrates produced at Bor were to be designated for export (American Metal Market, 1999b; Mining Journal, 1999).

Also, Bor's copper operations were enhanced by a new US\$2.5 million flotation unit at the Veliki Krivelj Mine, that would raise ore processing capacity by 18% to about 10.6 Mt/yr. The new processing capacities allowed Bor to plan a production increase of copper in concentrates to 85,000 t/yr from 70,000 t/yr and to raise the production of cathode to 67,000 (t) in 2000, or about 24% more than that produced in

1998 (American Metals Market, 1999a).

Rudarsko-Metalursko-Hemijski Kombinat za Olovo i Cink Trepca (Trepca) in Serbia's Kosovo Province was the country's and perhaps the region's largest lead and zinc mining, beneficiation, smelting, and refining complex. Although Trepca sustained only minor damage during the 1999 war, it was closed during the conflict mainly because of frequent interruptions of electricity supplied by powerplants that came under heavy air attack (Metal Bulletin, 1999e). With the exception of the zinc plant, Trepca was reopened in July, but only the lead plant resumed production based entirely on previously stockpiled lead concentrates. Before the war, Trepca also produced such associated metals as antimony, bismuth, cadmium, gold, and silver. In 1999, output levels of lead and zinc ore fell by 72%, and lead and zinc metals fell by 84%, and 76%, respectively, compared with those of 1998.

By yearend, the full restart of operations at Trepca proved to be a formidable task. Disputed ownership and/or management rights as well as a lack of capital apparently, were the main obstacles to full resumption of operations. Among the claimants to management rights at Trepca was Mytilineos S.A., a metals trading company, based in Athens, that had negotiated joint venture agreements with Trepca's Serbian authorities in 1998. Trepca's production at yearend was largely limited to smelting stockpiled imported lead concentrates (Metal Bulletin, 1998, 1999g).

Magnesium metal production at the Bela Stena magnesium plant reportedly ceased during the year, owing to severe shortfalls in fuel oil deliveries. Although the 5,000-t/yr plant was not damaged during the conflict, nevertheless, it was not expected to return to production in the near term (Metal Bulletin, 1999b). In 1999, magnesium production declined by about 70% compared with that of 1998. Exports of magnesium metal declined by about 32% to 3,030 tons in 1999 from 4,451 tons in 1998. Precious metals production (mainly byproducts of nonferrous metals mining and processing) also declined proportionally, and exports of silver declined by more than 50% (Federal Statistical Office, 2000, p. 27).

Serbia and Montenegro's iron and steel industry did not suffer major damage during the war. A production slowdown at Sartid AD-Smederevo (Sartid), which was the country's large integrated steel mill, according to company sources, was chiefly the result of modernization downtime. Facility modernization (blast furnace) began in March and was scheduled for completion in May (Metal Bulletin, 1999a). The degradation of Serbia and Montenegro's infrastructure (ways, communications, electric power stations, etc.), however, delayed deliveries of raw materials and electricity, which, in turn, delayed or prevented needed deliveries of cold-rolled products and coil to Sartid's downstream subsidiaries (Metal Bulletin, 1999d). Production at Sartid resumed in July.

Production was suspended at the Sabac tin plate works at Zorka, a subsidiary of Sartid, because Sartid had not been able to produce sufficient amounts of cold-rolled steel to meet Sabac's needs. Before the war, Sabac produced from about 15,000 to 20,000 t/yr of tinplate (Metal Bulletin, 1999c).

Meanwhile, the situation at Sartid's other subsidiary steel plants also was uncertain. Owing to its financial involvement with Serbia's Sartid steelworks, Duferco, which was a Swiss trading company, announced plans to reopen three of Sartid's subsidiaries that were operating in Kosovo—a tube and pipe mill in Urosevac, a galvanizing line in Vucitrn, and a radiator plant in Gneilane. Duferco indicated that it would seek to maintain a supply of coil from Sartid (Metal Bulletin, 1999f). Similar supply problems affected Zeljezara Niksic DD in Montenegro, the country's other major steel producer.

The other major metallurgical facility in Kosovo was Ferro-Nickel D.D. Glogovac (Glogovac), which was Serbia and Montenegro's sole mine producer of nickel ore and smelter producer of ferronickel. Glogovac, which was closed in 1998 because of the increasing social and political instability in the region, sustained significant damage from the conflict in 1999 and has since remained closed. The Kosovo-based ferronickel producer, however, was not totally destroyed. Ownership and/or management rights questions, as with many other commercial properties in Kosovo, have remained salient issues.

Serbia and Montenegro's production of industrial minerals included such commodities as clays (bentonite, fire clay, and kaolin), feldspar, gypsum, magnesite, and pumice, that generally have met domestic and foreign trade needs but that would acquire greater significance for the domestic economy as the country's reconstruction process progresses.

With reserves exceeding 17 billion metric tons, Serbia and Montenegro was among the major producers of coal in the region. Lignite composed more than 98% of the coal produced, which primarily was surface mined in the Kostolac, the Kolubara, the Kosovo, the Metohija, and the Pljevlja basins. About 30% of total coal resources are in the Kosovo and the Metohija basins in Kosovo, and in recent years, they had accounted for about 25% of total coal production in Serbia and Montenegro. The lignite mined in Kosovo, in general, was known and valued for its low-sulfur content (U.S. Energy Information Administration, 1999). Although the mines were not seriously affected by the war, the country's system of electric power distribution was markedly degraded during the conflict. About 66% of electric power generation in Serbia was coal based. In Montenegro, the share of coal used for electric power generation amounted to only 29%.

Small quantities of petroleum and natural gas were produced in Serbia's northern Vjvodina Province. The country's major sources of natural gas and petroleum supply, however, were obtained through the Adria and Bratstvo pipelines, respectively. Apart from international embargoes placed on oil and gas deliveries to Serbia and Montenegro in 1999, most of the country's refineries and oil storage facilities were destroyed during the conflict (U.S. Energy Information Administration, 1999).

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TABLE 1
SERBIA AND MONTENEGRO: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity 3/ METALS	1995	1996	1997	1998	1999
Aluminum:					
Gross weight:					
Alumina, calcined	35,312	186,354	160,000	152,619 r/	156,012
Bauxite	60,000	323,000	470,000	226,000 r/	500,000
Metal, ingot, primary and secondary	16,991	37,436	65,743	60,090 r/	72,505
Antimony, metal	(4/)	(4/) e/	--	--	--
Bismuth, metal kilograms	86	21	20 e/	430 r/	--
Cadmium do.	11,079	79,195	80,000 e/	17,320 r/	--
Copper:					
Mine and concentrator output:					
Ore, gross weight thousand tons	20,206	20,026	20,507	19,939 r/	15,975
Cu content of ore	87,575	82,526	82,500	84,627 r/	62,777
Concentrate, gross weight	363,332	337,861	361,000	372,103 r/	272,172
Concentrate, Cu content	74,600	69,500	73,600	70,900 e/	51,700
Metal:					
Blister and anodes:					
Primary	70,074	59,940	59,000 e/	101,000 r/	54,000
Remelted	17,336	65,287	60,000 e/	101,925 r/	49,782
Total	87,410	125,227	119,000 e/	202,925 r/	103,782
Refined:					
Primary	71,304	59,940	70,534	54,000 r/	48,000
Remelted	7,147	44,060	43,000	40,396 r/	1,902
Total	78,451	104,000	113,534	94,396 r/	49,902
Gold, refined kilograms	3,040	4,000	4,000	2,684 r/	1,260
Iron and steel:					
Ore and concentrate, agglomerate	110,113	50,000 r/ e/	25,000 r/ e/	5,125 r/	2,088
Metal:					
Ferrous alloys, ferronickel	2,414	6,501	6,500 e/	1,215 r/	--
Pig iron	107,836	535,000	907,000	825,916 r/	134,882
Crude steel	180,496	679,000	979,000	948,314 r/	226,240
Semimanufactures	242,000	860,000	1,460,000	1,740,000 r/	296,300
Lead:					
Mine and concentrate output:					
Ore, gross weight (Pb-Zn ore)	510,942	856,468	1,049,000	1,248,852 r/	348,605
Pb content of ore	11,689	22,327	27,000 e/	24,750 r/	4,553
Concentrate, gross weight	16,720	29,009	31,000 e/	32,691 r/	6,536
Pb content of concentrate e/	3,342 5/	10,000	11,000	12,000	3,200
Metal, primary and secondary:					
Smelter	19,231	44,600	41,000	35,576 r/	4,077
Refined	11,468	30,317	23,632	23,756 r/	3,690
Magnesium, metal	2,560	2,500 e/	2,500 e/	3,965 r/	1,203
Nickel, metal, Ni content of Fe Ni	962	2,556	2,440 r/	466 r/	--
Platinum-group metals:					
Palladium kilograms	46	56	55 e/	54 r/	21
Platinum do.	6	3	3 e/	3 e/	3
Selenium do.	39,810	37,840	38,000 e/	40,866 r/	20,080
Silver do.	31,054	68,805	42,640	34,474 r/	9,276
Zinc:					
Zn content of Pb-Zn ore	11,515	21,765	25,000 e/	20,285 r/	4,329
Concentrator output, gross weight	21,297	37,012	35,000 e/	40,530 r/	10,286
Zn content of concentrate	3,195	12,000	13,000	14,000	5,000
Refined	5,976	29,954	29,454	14,415 r/	3,409
INDUSTRIAL MINERALS					
Asbestos fiber, all grades	497	509	765 r/	1,452 r/	361
Cement thousand tons	1,696	2,205	2,011	2,253 r/	1,575
Clays:					
Bentonite	192	95	100 e/	68 r/	77
Ceramic clay	28,095	36,021	35,000 e/	40,033 r/	29,420
Fire clay:					
Crude	20,988	43,053	51,000	45,319 r/	25,766
Calcined e/	4,091 5/	8,000	10,000	10,000	4,000

See footnotes at end of table.

TABLE 1--Continued
 SERBIA AND MONTENEGRO: PRODUCTION OF MINERAL COMMODITIES 1/ 2/

(Metric tons unless otherwise specified)

Commodity 3/	1995	1996	1997	1998	1999
INDUSTRIAL MINERALS--Continued					
Clays--Continued:					
Kaolin:					
Crude	56,926	60,000 e/	60,000 e/	75,092 r/	40,321
Washed e/	4,900 5/	6,000	6,000	6,000	4,000
Feldspar, crude	5,441	4,801	4,880	4,280 r/	3,453
Gypsum, crude	40,342	44,257	32,124	27,778 r/	33,962
Lime	418	456	460	480 r/	381
	thousand tons				
Magnesite:					
Crude	75	89	98	949 r/	31
Caustic calcined	4,078	10,601	6,327	7,044 r/	2,000
Mica, all grades	199	200 e/	200 e/	247 r/	229
Nitrogen, N content of ammonia	135,401	235,070	235,000	166,152 r/	75,788
Pumice and related volcanic materials, volcanic tuff	117,664	120,135	120,000 e/	120,000 e/	50,000
Quartz sand	307	361	366	353 r/	253
	thousand tons				
Salt, all sources	13,500	21,646	28,000	78,148 r/	63,834
Sand and gravel excluding glass sand	2,070	3,291	2,351	3,060 r/	2,006
	thousand cubic meters				
Sodium compounds:					
Caustic soda	7,252	20,214	64,713	63,344 r/	13,720
Sodium sulfate	7,178	7,000 e/	5,000 r/	1,896 r/	1,321
Stone, excluding quartz and quartzite, dimension, crude:					
Ornamental	237,000	219,000	206,000	258,000 r/	182,000
	square meters				
Crushed and broken, n.e.s.	1,886	2,263	2,665	3,085 r/	1,937
	thousand cubic meters				
Other, stone blocks	9,916	12,196	9,817	1,630 r/	786
	cubic meters				
Sulfur, byproduct: e/					
Metallurgy	110	110	100	100	100
	thousand tons				
Petroleum	1	1	1	1	1
	do.				
Total	111	111	101	101	101
	do.				
MINERAL FUELS AND RELATED MATERIALS					
Coal:					
Bituminous	57	63	92	105	49
	do.				
Brown	560	539	512	390 r/	413
	do.				
Lignite	39,939	37,828	42,313	43,577 r/	30,967
	do.				
Total	40,556	38,430	42,917	44,072 r/	31,429
	do.				
Natural gas, gross production	906	671	688	715	731
	million cubic meters				
Petroleum:					
Crude:					
As reported	1,066	1,030	979	913 r/	705 5/
	thousand tons				
Converted	8,000	7,600	7,500	6,800 e/	5,200
	thousand 42-gallon barrels				
Refinery products e/	13,000	12,500	12,000	20,000 r/	8,000
	do.				

e/ Estimated. r/ Revised. -- Zero.

1/ Estimated data are rounded to no more than three significant digits; may not add to totals shown.

2/ Table includes data available through June 2000.

3/ In addition to commodities listed, common clay and diatomite also are produced, and tellurium may be recovered as a copper refinery byproduct, but available information is inadequate to make reliable estimates of output levels.

4/ Less than 0.25 metric ton.

5/ Reported figure.

TABLE 2
SERBIA AND MONTENEGRO: STRUCTURE OF THE MINERAL INDUSTRY IN 1999

(Thousand metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity
Alumina	Kombinat Aluminijuma Titograd	Plant at Titograd, Montenegro	200.
Aluminum	do.	Smelter at Titograd, Montenegro	100.
Antimony, ores and concentrates	Zajaca, Rudarsko Tapioninarski Bazen	Mines and mills near Zajaca, Serbia	80.
Do.	do.	Mines and mill at Rajiceva Gora, Serbia	300.
Antimony, metal	do	Smelter at Zajaca, Serbia	4.
Bauxite	Rudnici Boksita, Niksic	Mines in Montenegro at Kutsko Brdo, Zagrad, Biocki Stan, Durakov Dol, and other locations	650.
Coal:			
Bituminous	Ibarski Rudnici Kamenog Uglja	Mines at Jarando and Usce, near Baljevac na Ibru, Serbia	250.
Lignite	SOUR Kolubara, Rudarsko Energetsko Industrijski Kombinat, RO	Opencast mines: Polje B and Polje D	10,000.
Do.	Kolubara Povrsinski Kopovi	Tamnavski Kopovi (also known as Kolubarski Rudnici Lignita), near Vreoci, Serbia	14,000.
Do.	SOUR Elektroprivreda Kosova, RO Kosovo, Proizvodnja Separacija i Transport Uglja	Opencast mines: Dobro Selo and Belacevac, near Obilic, Serbia	2,000.
Cement	Becinska Fabrika Cementa	Plant at Beocin, Serbia	2,031.
Do.	Fabrika Cementa Novi Popovac	Plant at Popovac, Serbia	1,613.
Copper	Rudarsko Topionicki Bazen Bor	Smelter at Bor, Serbia	180.
Do.	do.	Electrolytic refinery at Bor, Serbia	180.
Do.	do.	Mine and mill at Bor, Serbia	5,000 ore.
Do.	do.	Mine and mill at Majdanpek, Serbia	15,000 ore.
Do.	do.	Mine and mill at Veliki Krivelj, Serbia	8,000 ore.
Lead-zinc ore	Rudarsko-Metalursko-Hemijski Kombinat za Olovo i Cink Trepca	Mines at Ajvalija, Kopanaonik, Trepca, Blagodat, Lece; Veliki Majdan, Tisovak; and Kisanica, Rudnik, Suplja Stijena	5,000.
Do.	do.	Mills at Kriva Feja, Lece, Rudnik, Badovac, Leposavic, Zvecan, and Maravce, Suplja Stijena	3,160.
Do.	Hemijska Industrija Zorka: Brskovo, Rudnici Olova i Cinka	Mine at Brskovo, Montenegro	500.
Do.	Veliki Majdan Rudnik Olova i Cinka	Mine at mill near Krupanj, Serbia	250.
Lead, metal	Rudarsko Metalursko Hemijski Kombinat za Olovo i Cink Trepca	Smelter at Zvecan, Serbia	180.
Do.	do.	Refinery at Zvecan, Serbia	90.
Magnesite, concentrate	Rudnici Magnezita "Sumadija"	Mine and plant at Sumadija, 20 kilometers northwest of Cacak, Serbia	120.
Do.	Rudnik i Industrija Magnezita "Strezovce"	Opencast mine at Beli Kamen, Strezovce, near Itiova Metrovica, Serbia	300.
Do.	do.	Sinter plant at Strezovce	40.
Do.	Magnohrom, Rudnik Magnezita "Magnezit"	Mine at Bela Stena, Baljevac na Ibru, Serbia	30.
Natural gas	million cubic feet Naftaplin (Naftagas), RO za Istrazivanje, i Provoznu Nafte i Gasa	Natural gasfields in Serbia Kinkinda and others	30,000.
Petroleum:			
Crude	thousand barrels per day Naftagas, Naftna Industrija	Oilfields in Serbia: Kikinda and others	30.
Refined	do. Naftagas, Naftna Industrija:		
Do.	do. Rafinerija Nafte Pancevo	Refinery at Pancevo, Serbia	110.
Do.	do. Rafinerija Nafte Novi Sad	Refinery at Novi Sad, Serbia	28.
Pig iron	Metalurski Kombinat, Smederevo	Blast furnace at Smederevo, Serbia	720.
Steel, crude	do.	Plant at Smederevo, Serbia	600.
Zinc metal	Rudarsko Metalursko Hemijski Kombinat Olova i Cinka Trepca, Metalurgija Cinka	Electrolytic plant at Titova Metrovica, Serbia	40.
Do.	Hemijska Industrija Zorka	Electrolytic plant at Sabac, Serbia	40.